

Sample

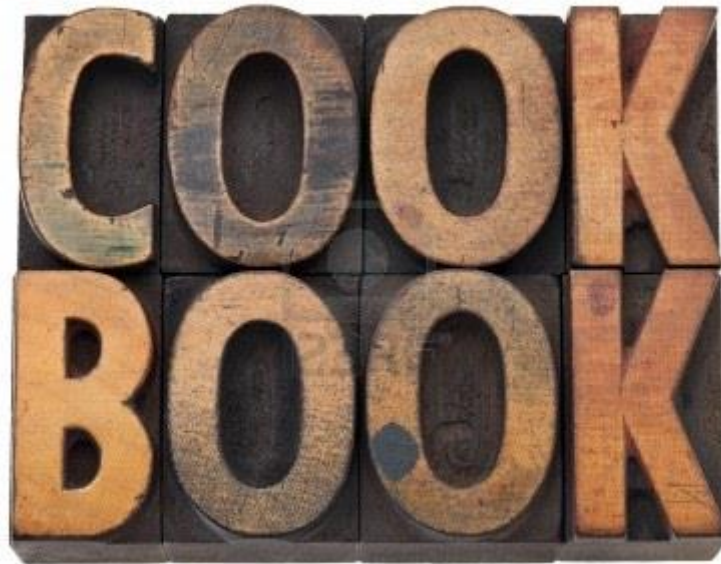
Materials Technology Wood Junior Certificate Brief

Example Cover Page

Includes; Class Name, Exam, Level, Project Name, *Exam No. and Picture/Sketch relating to project.

*For pre use your name.

Materials Technology Wood Junior Certificate Examination 2013



Design Portfolio

Higher Level

Project 1: Cook Book Stand

Exam no. 25213

My Brief

Write out your brief (page 1). This will be taken from the Project criteria brief.

Example:

- 1. The most cherished objects are often those that are simply crafted and easy to use.**

Design and make a stand that will support an open cookery book on a kitchen worktop. The stand should express the elegance of handcrafted joints. As a secondary function, the stand should be suitable as a visually attractive wall mounted display.

Reason why you picked your project

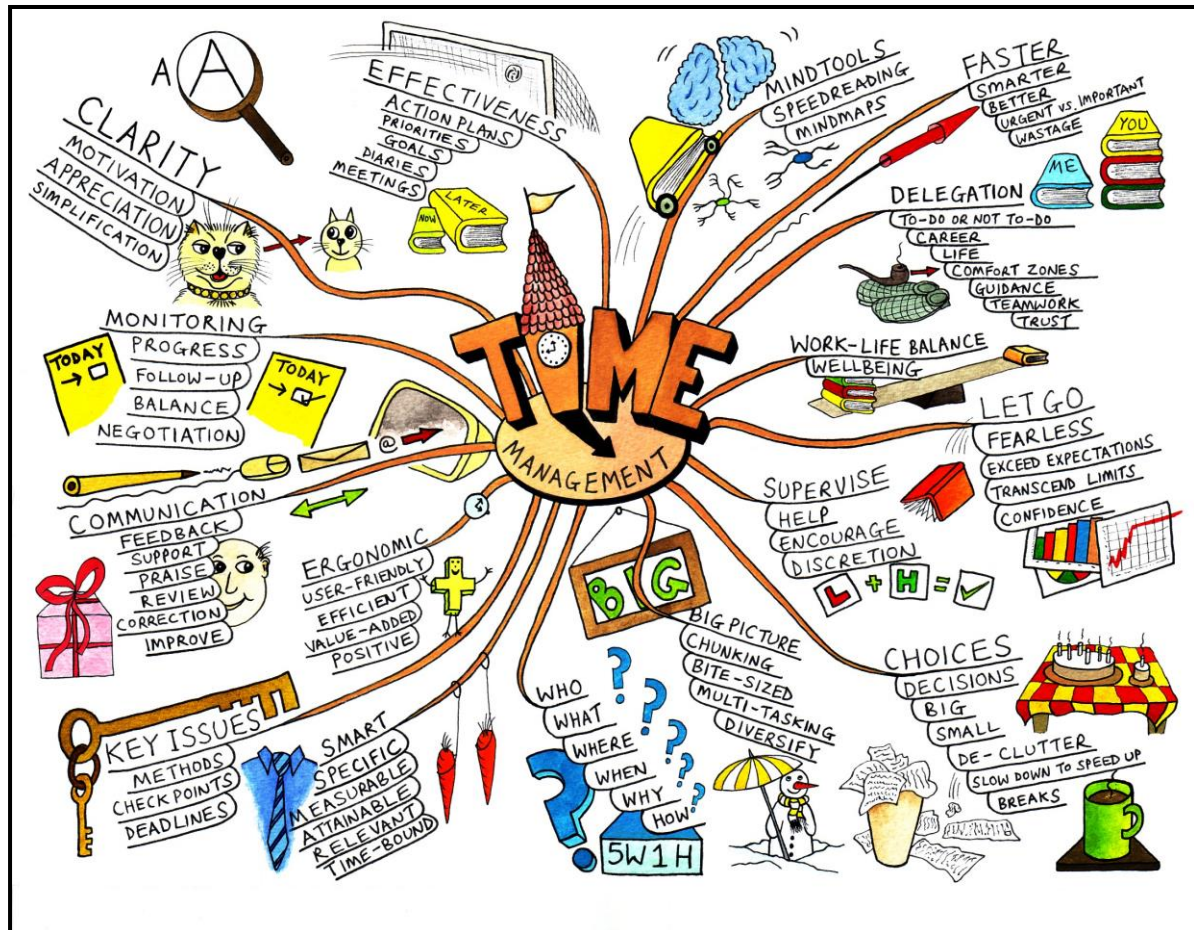
Write out a paragraph explaining why you picked this brief and not the other 2.

I chose to make the cook book stand as I like to cook. It is a hobby of mine and the stand will be very useful when it is finished. It also allows for a lot of different designs and solutions. I can show off my skills.

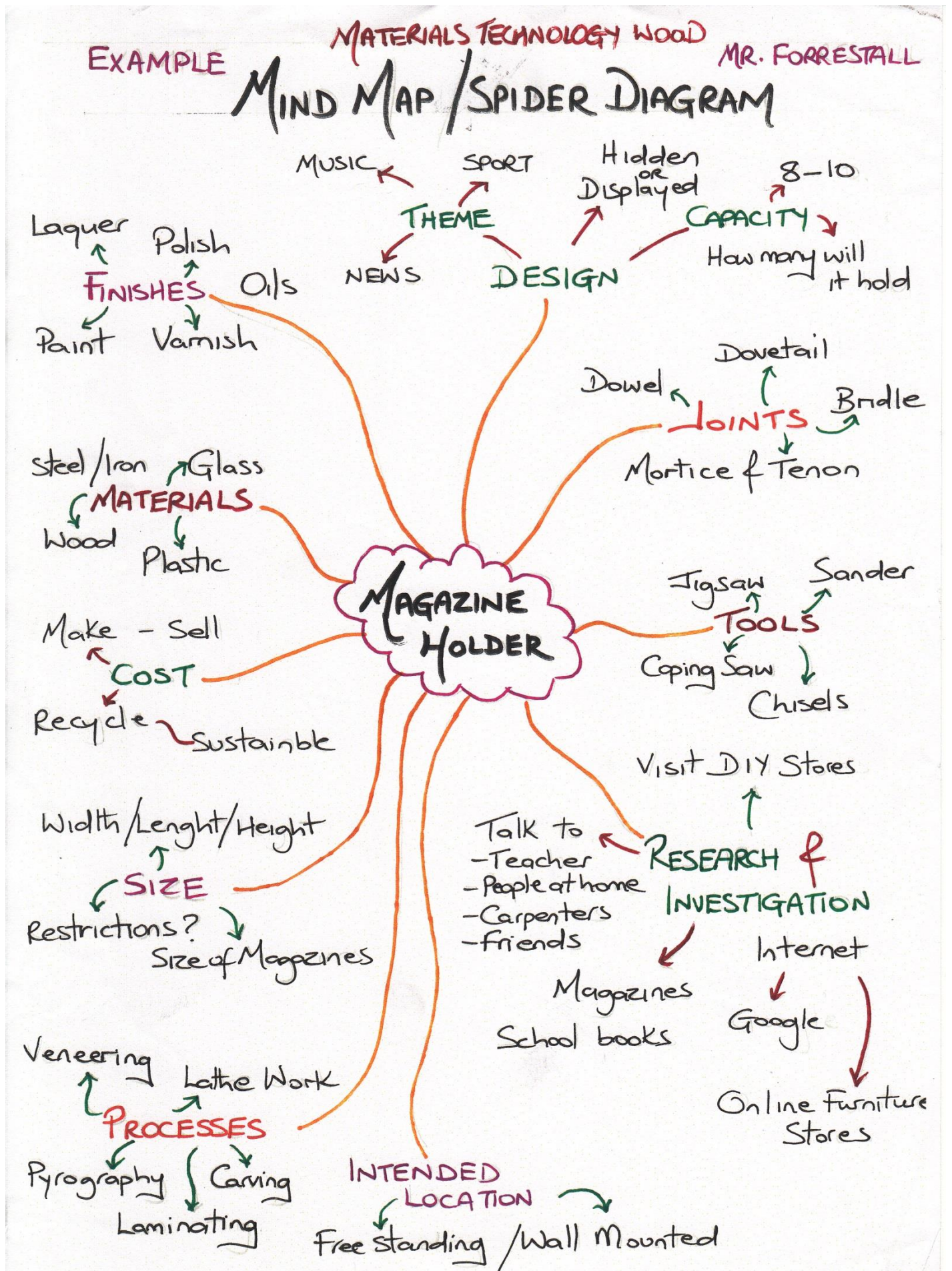
I did not choose the personal storage unit as a lot of the class are making it. I also feel that it will end up looking like a box unit when finished and the book stand is something new. I also did not like the artefact idea as when it is finished it will have very little use.

Mind map which picks out important words from brief

Mind map example



• Example Mind Map – Usually done by hand



Analysis of the Brief

1. The most cherished objects are often those that are simply crafted and easy to use.

Design and make a stand that will support an open cookery book on a kitchen worktop. The stand should express the elegance of handcrafted joints. As a secondary function, the stand should be suitable as a visually attractive wall mounted display.

Key Words

Underline/highlight and write a definition (Dictionary) about each important word explaining how it affects your project.

Cherished - to cling fondly or inveterately to: *to cherish a memory.*

Simply Crafted.

Easy To Use.

Support.

Open Cookery Book.

Kitchen Worktop.

Express.

Elegance .

Handcrafted Joints.

Secondary Function.

Suitable.

Visually Attractive.

Wall Mounted Display.

Analysis of the Brief

Write a paragraph under the following headings based on how they affect your project.

- a. Identify problem
- b. Capacity / Size
- c. Function / Requirements
- d. Ergonomics (outline factors to consider how an item can best be designed for comfort, efficiency, safety)

Design Task Specifications

- Design task specification state exactly what the project should include when completed. In total you should have between 6 and 10 statements beginning:
The artefact should be /do

In order to satisfy the design task requirements the following specifications are required:

- The project should be simply crafted.
- The project should be easy to use.
- The project should be able to support an open cook book.
- The project should express the elegance of handcrafted joints such as bridle, dovetails etc.
- As a secondary function the stand should be able to be wall mounted.
- The project should be visually attractive.
- The project should be finished to a high quality using varnishes or oils etc.
- The project should be safe with no sharp edges.

Investigation / Research



Research & Investigation

- Where did you carry out the research and investigation?
- Look for suitable ideas for your project and advice about making your project. You can do this by
 - a. Internet (pictures from Google images)
 - b. Catalogues or magazines (cut out or sketch)
 - c. Interviews (ask people for advice)
 - d. Contacting companies for information
 - e. Stores/shops visits (sketch or photograph)

Visiting Local Shops

- ✚ I visited the local DIY shops, shopping centres, book stores to see what types of cookbook stand units they have.

I went to the following:



They had some very good ones but none really suited what I was looking for. A lot of them were flat pack and did not incorporate any handcrafted joints. They also would not have been visually attractive when wall mounted.

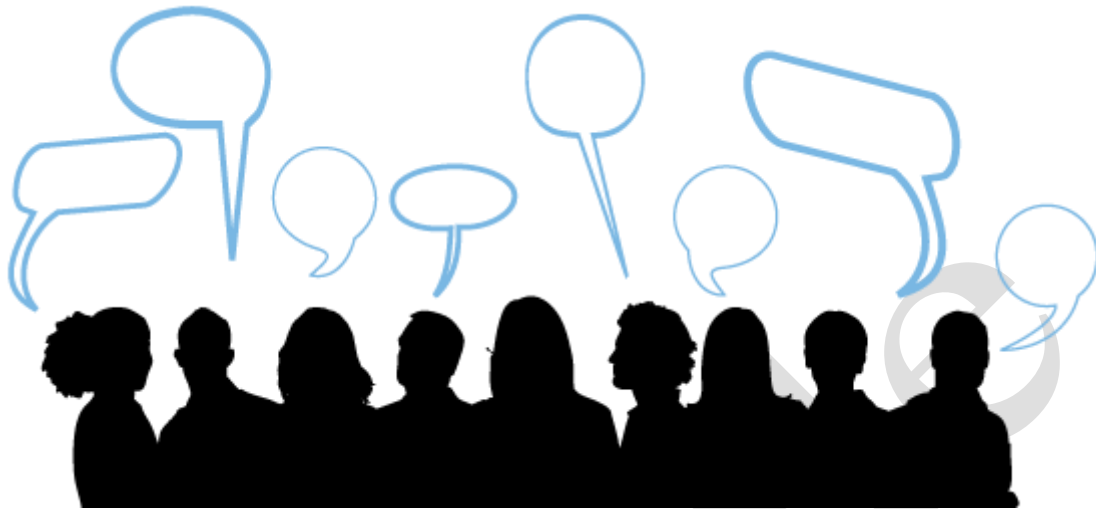
- ✚ After visiting the shops I used Google and Bing search engines to look up ideas. I looked up images where I found links to different websites that were very helpful.



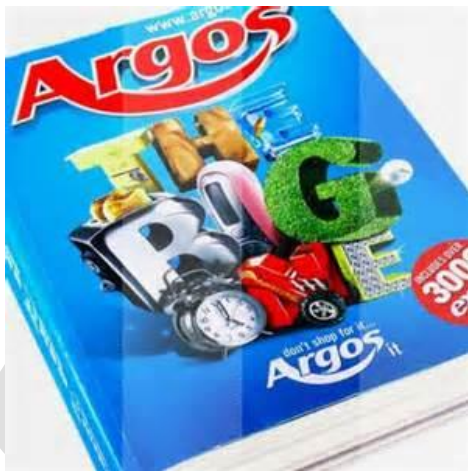
I found a lot of very good ideas here and some very unusual designs that I can use for the basis of my project.

Research & Investigation

- I also sought some advice from my teacher. I talked to my family at home.



- I also looked through some furniture, cooking magazines and an Argos catalog.






Ideas, Solutions and Inspirations

- This page should include a collection of current ideas, models and solutions that exist and may provide inspiration in your design.



Design Ideas

- Pick 5 – 10 current models and talk about how they can influence and satisfy the brief. Positives and Negatives (bullet point form)

	<p>Positives</p> <ul style="list-style-type: none"> Displays open cook book Simply crafted Includes handcrafted joints Support on worktop Easy to use <p>Negatives</p> <ul style="list-style-type: none"> Not elegant Cannot be wall mounted Not visually attractive
	<p>Positives</p> <ul style="list-style-type: none"> Displays open cook book Support on worktop Easy to use Elegant Visually attractive <p>Negatives</p> <ul style="list-style-type: none"> Cannot be wall mounted Not simply crafted No handcrafted joints
	<p>Positives</p> <ul style="list-style-type: none"> Displays open cook book Simply crafted Support on worktop Easy to use <p>Negatives</p> <ul style="list-style-type: none"> Not elegant Cannot be wall mounted Not visually attractive No handcrafted joints

Design Ideas



Positives

- Displays open cook book
- Simply crafted
- Includes handcrafted joints
- Support on worktop
- Easy to use
- Can be wall mounted

Negatives

- Not very elegant
- Not visually attractive

Materials to be used

Describe and compare at least 5 types of materials that *could* be used for each part of your project. Examples include:

Hardwoods	Softwoods	Manufactured boards
Ash, Oak, Cherry, Beech, Walnut, Teak, Mahogany, Elm	Red Deal, White deal, Pine	MDF, Plywood, OSB Board

- Plastics
- Glass
- Metals
 - Brass
 - Aluminium
 - Copper
 - Steel
- Fabrics
- Ceramics, etc

Briefly describe each/some type of materials that can be used. Give a reason why each type would or would not be suitable for your project. Insert pictures of the materials.

Research of Natural Wood

As the brief says the project must be enhanced by the natural beauty of wood I don't think I can use manufactured boards.

Here are some woods that I can use:



Hard Maple



Soft Maple



Knotty Pine



Clear Pine



Red Oak



White Oak



Douglas Fir



Poplar



Cherry



Birch



Alder



Ash



African Mahogany



Honduran Mahogany



Walnut



Hemlock

Research of Natural Wood

My three favourite are...



➤ Ash wood

www.tmwoodproducts.com

➤ Oak wood

finefurniturebyjoe.wordpress.com



➤ Pine wood



www.wood-floor-store.com


Research of Possible Finishes

- State possible finishes that can be used and some info about each one 2-3 lines.

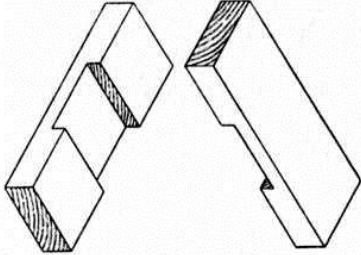
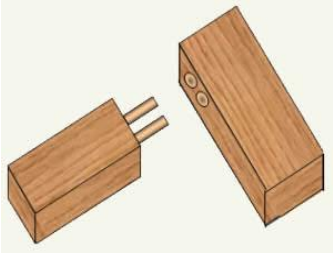
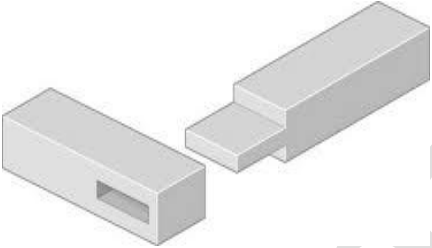
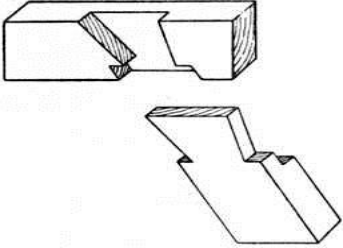
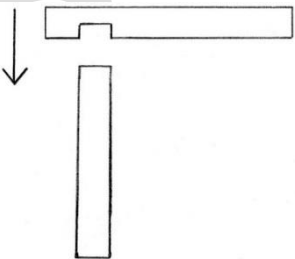
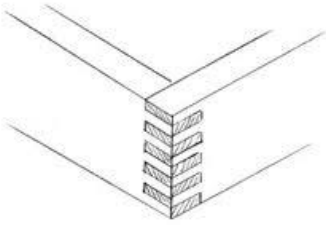
As the project should be enhanced by the natural beauty of wood I think I should use a clear finish to enhance the grain.

Firstly I am going to be using P40 sand paper to get out all of the bumps or scratches that I would find on the project. Then I will use P400 sand paper to give it a nice smooth feel to the wood.

Then I will apply an appropriate finish. From research and making previous projects I found the finishes below to be suitable.

	<p>Clear Lacquer</p> <p>About: Clear Lacquer finish is a clear finish topcoat that offers along-lasting protective finish for both wood & metal.</p>
	<p>Clear Varnish</p> <p>About :</p>
	<p>Boiled Linseed Oil</p> <p>About :</p>
	<p>Danish Oil</p> <p>About :</p>
<p>Can also use wax, spray varnish, texture sprays etc.</p>	

Joint Research

	<p>➤ Cross halving joint</p>
	<p>➤ Dowel joint</p>
	<p>➤ Mortise and Tenon joint</p>
	<p>➤ Dove tail joint</p>
	<p>➤ Finger joint</p>
	<p>➤ Housing joint</p>

Method of Construction / Skills and Techniques

Sketch and explain the different methods of construction you could use to enhance your project, e.g. pyrography, carving, marquetry, turning, shaping and woodwork joints etc that *could* be used.

- Describe, with sketches and notes, at least 3 of the possible alternatives.
 - pyrography (wood burning)
 - Inlay
 - carving
 - Woodturning
 - marquetry,
- Sketch and describe jointing methods that could be used for your project
 - Screw and Plug
 - Dowel Joints
 - Mortice and Tenon
 - Dovetail
 - Housing
 - Halving
 - Biscuit
 - Etc.

Applied Finish

- Outline how you would prepare the surface to accept a finish. Sanding etc look up in book or online
- Describe the applied finishes that could be used on your project and write a note on each.
 - ❖ Varnish
 - ❖ Wax
 - ❖ Danish Oil
 - ❖ Paint
 - ❖ Etc.

Sources of Information

Whenever you get information for your research you should include a source

Teachers	- Art, M.T. (Wood), M.T. (Metal), H.E. etc.
Parents and Family	- Friends/Classmates
Trades People	- DIY
Books / Magazine	- Art, Woodwork, Nature, Sport, Colouring Books etc.
Shops and Library	- Craft shops, Discount Stores, Furniture Store, Toyshops
Internet	- internet web address

Make sure that you write down the names of the people, books, magazines, and websites etc. that you get your ideas from.

Design Ideas/ **Possible Solutions**



Design Ideas/Possible Solutions

{Idea and possible solutions (idea sketching) set out in the brief can be developed with small rough sketches. Lots of ideas (15-20 or more) can be tried out until one is found that works}

- Describe at least 15-20 different designs for your project; these should include your own drawn diagrams, diagrams from magazines, Internet or books etc. As YOU NARROW down solutions to six ideas then
 - Sketch 5-6 different ideas
 - List the advantages and disadvantages of each.
 - Include a brief description of how each is made (relate back to Investigation and Research if required).
 - Include jointing methods
 - Include 3-4 overall dimensions (Length, Width, Height)
- Describe at least three different alternatives to your theme (environment, biodiversity, carbon footprint etc.) if this is relevant to your project.
- It must be clear from your Design Ideas how you developed your final solution
- All drawings are to be 3-D, freehand, in pencil and coloured in with colouring pencils.
- Make a model from cardboard / foam
- Safety considerations

Design Ideas No 1

- Large sketch of possible solution
- Drawings are to be 3-D, freehand, in pencil and coloured in with colouring pencils.

Pros / advantages

-
-
-

Cons / dis advantages

-
-
-

Design Ideas No 2

- Large sketch of possible solution
- Drawings are to be 3-D, freehand, in pencil and coloured in with colouring pencils.

Pros / advantages

-
-
-

Cons / dis advantages

-
-
-

Design Ideas No 3

- Large sketch of possible solution
- Drawings are to be 3-D, freehand, in pencil and coloured in with colouring pencils.

Pros / advantages

-
-
-

Cons / dis advantages

-
-
-

Design Ideas No 4

- Large sketch of possible solution
- Drawings are to be 3-D, freehand, in pencil and coloured in with colouring pencils.

Pros / advantages

-
-
-

Cons / dis advantages

-
-
-

Design Ideas No 5

- Large sketch of possible solution
- Drawings are to be 3-D, freehand, in pencil and coloured in with colouring pencils.

Pros / advantages

-
-
-

Cons / dis advantages

-
-
-

Design Ideas No 6

- Large sketch of possible solution
- Drawings are to be 3-D, freehand, in pencil and coloured in with colouring pencils.

Pros / advantages

-
-
-

Cons / dis advantages

-
-
-

Final Solution



(f) Final Solution

Coloured 3-D freehand drawing of your project.

Include reason for your selection

Reasons for Selection

Example: I have chosen to go with Idea 2 because I feel that I will be able to make this project in the time given. I believe that I have the skills and the ability to make this project. I feel that this project if finished well will get me full marks as it satisfies the brief the best. It satisfies the brief and will be able to display an open cook book when finished. The project includes hand crafted joints and can be wall mounted when finished. It will be visually attractive.

Working Drawings

These are drawings of each of the pieces you will make/made to a scale. Completed on an A3 sheet.



Manufacturing Sequence



Here you outline the main steps taken to produce your project. These will also include sketches.

*Marking out sequences, *construction methods used, (trenching, triangle method of sawing, lathe work etc.), *processes (laminating, veneering, pyrography etc.),
Finishing process (preparation steps and finishes applied).

Sample

Tools Used

*Here you outline the key tools that you have used in making your project.
Incorporate to or three safety points on each tool. (5 + Tools)

<u>Cordless Drill</u>	
	<u>Use:</u> <u>Safety Points:</u>
<u>Coping Saw</u>	
	<u>Use:</u> <u>Safety Points:</u>

Materials Cutting List

*Materials cutting list includes all the material you use and the sizes that it is cut to.
Example filled out below

Part No.	Description	Material	Size	Quantity
1	Base	Mahogany	200x150x20	1

Part No: this will be generated from the working drawings

Description: name of the part

Material: What the part is made from

Size: Length X Width x Thickness of piece (in millimetres)

Quantity: How many of the pieces is required.

Final Evaluation

- ✚ Review of project in relation to the given brief. (Stating how it satisfies the brief).

Assessing of artefact with respect to;

- ✚ Function
- ✚ Appearance
- ✚ Proportion
- ✚ Shape
- ✚ Safety
- ✚ Problems encountered while making the project.
- ✚ Modifications (changes) that you would make if you had to make the project all over again.